

## REMARKS

The Office Action mailed on September 22, 2005 has been carefully considered and the Examiner's remarks are appreciated. Claims 1-123 were previously subject to a restriction requirement. Applicants elected Group III, claims 80-123 for prosecution, and claims 1-79 were withdrawn. In the present response, claims 84, 90, 112, and 118 have been canceled, and claims 80, 82, 83, 96, 97, 101, 103, 104, 111, and 117 have been amended. Therefore claims 80-83, 85-89, 91-111, 113-117, and 119-123 are presented here for examination and Applicants respectfully request reconsideration of these claims in view of the above amendments and the following remarks. No new matter has been added, with support for the amendments found in the Specification, claims, and the drawings.

### Allowable Subject Matter

The Examiner objected to claims 92, 93, 120, and 121 as being dependent upon a rejected base claims, but would be allowable if rewritten in independent form. However, Applicant has not adopted Examiner's suggestion at this time, pending prosecution on the merits of the rejected original base claims.

### Discussion of the Rejections Under 35 USC §112, Second paragraph

The Examiner rejected claims 80, 82-84, 89, 90, 111, 112, 117 and 118 under 35 U.S.C. 112, second paragraph, as being indefinite.

Regarding claim 80, the Examiner stated that the term “small” is a relative term which renders the claim indefinite as not defined by the claim. Applicant’s respectfully submit, however, that the standard for the term “small” is found in the Specification, in paragraphs [0019] and [0020] beginning on page 11. In particular, the term “small” is used in reference to the “small pixel effect” which affects electric field shaping and electron-hole motion. It is appreciated that “small pixel effect” is a known phenomena attributable especially to detectors with pixel dimensions that are small compared with the detector thickness, as described in the referenced publication Radiation Detection and Measurement (see excerpted pages in Appendix). However, in order to clarify this point, Applicants have amended claim 80 by replacing the phrase “*small pixels*” with the phrase “*small pixel effect type pixels.*” While claim 96 was not specifically rejected under section 112, second paragraph, the phrase “*small pixels*” therein was similarly amended. Reconsideration is requested.

Regarding claim 82, the Examiner stated that the claim is indefinite for claiming both an apparatus and a method of using the apparatus. While Applicants respectfully disagree with the Examiner’s reading of the claim, claim 83 has been rephrased to clarify it as an apparatus having a specific structure as follows:

*“wherein the ~~pixels located in said regions having imperfections are individually disabled by connecting~~ the plurality of channels of said readout are connected only to the pixels in regions without imperfections.”*

Reconsideration is requested.

And regarding claims 83, 84, 89, 90, 111, 112, 117, and 118, the Examiner stated that the claims are indefinite as describing function but not structure. Applicants have canceled claims 84, 90, 112, and 118. Claims 83, 89, 111, and 117 have been amended as follows:

*"wherein said regions having imperfections are low ~~performance~~ resistivity regions characterized by low performance and power drain."*

Applicants respectfully submit that "low resistivity" is not a functional limitation, rather it is a material property and therefore a structural limitation describing the imperfections. Furthermore, while the Examiner stated that low resistivity is an inherent property of defective pixels, Applicants submit that this is not necessarily true in all cases. For example, imperfections may consist of pixel surface anomalies, deformations, etc. which may cause poor or otherwise defective detection performance. Reconsideration is therefore requested.

#### Discussion of the Rejections Under 35 USC §101, Second paragraph

The Examiner rejected claims 82-84 under 35 U.S.C. 101 because the claims are directed to neither a "process" or a "machine" but rather embraces or overlaps two different statutory classes of invention. While Applicants respectfully disagree with the Examiner's reading of claim 82, Applicants have amended claim 82 as described above. Therefore reconsideration is requested.

#### Discussion of the Rejections Under 35 USC §102

The Examiner rejected claims 80-84, 87-91, 94-97, 100, 101, 103, 104, 106, 107, 109, 110, 115-119, 122, and 123 under 35 U.S.C. 102 as being anticipated by U.S. Pat. No. 6,694,172 to Gagnon et al (hereinafter "Gagnon"). As mentioned above claims 84, 90, 112, and 118 have been canceled.

Regarding the independent claims 80 and 96, Applicants respectfully submit that the amendment of the phrase "*small pixels*" to "*small pixel effect type pixels*" (discussed above) overcomes the 102 rejection since none of the cited prior art references meet the requirements of MPEP §2131 that each and every element in the claim be expressly or inherently describe in a single prior art reference. As such, Applicant also submit that claims 81-84, 87-91, 94, 95, 97, 100, 101, 103, 104, 106, 107, 109, 110, 115-119, 122, and 123 are also allowable as being dependent on an allowable base claim.

Regarding claims 96, 97, 100, 101, 103, 104, 106, 107, 109, 110, 115-119, 122, and 123 in particular, Applicants also submit in the alternative that Gagnon does not teach a "*communications means for communication over a communications network*" which the Examiner stated is provided in Gagnon by the video display 82. Notwithstanding the Examiner's suggestion to the contrary, the video display 82 does not subsequently communicate data over a communications network. On the contrary, column 9, lines 5-9 suggest that the video display is the end destination of the process, as follows:

*"An image processor 80 under operator control withdraws selected portions of the volumetric image representation and converts them into appropriate form for display on a video monitor or other human-readable display 82."*

Furthermore, it can be seen that dependent claim 107 already provides as a further limitation to claim 96 a “*means for displaying detection data obtained by said radiation sensor module.*” Applicants respectfully submit that because this claim 107 claims a “display”, the “*communications means*” of claim 96 must be something different in accordance to the principle of claims differentiation.

Regarding claim 97, 101, 103, and 104, the Examiner stated that recitations of “*capable of*” or “*adapted to*” are not position limitations but only requires the ability to so perform. Applicants adopted the Examiner’s suggestions and have amended these claims with positive limitations.

Applicants also submit in the alternative, that claims 83, 89, 111, and 117 are also allowable over Gagnon, since Gagnon does not expressly or inherently describe low resistivity as the imperfection.

#### Discussion of Rejections under 35 USC 103

In the Office Action, the Examiner rejected claims 98, 99, 108 under 35 U.S.C. 103(a) as being unpatentable over Gagnon, claims 85, 86, 113, and 114 as being unpatentable over Gagnon in view of U.S. Pat. Pub. No. 2003/0155516 to Spartiotis et al (hereinafter “Spartiotis”), and claims 102 and 105 as being unpatentable over Gagnon in view of U.S. Pat. No. 6,559,452 to Tashiro (hereinafter “Tashiro”). Applicants respectfully submit that claims 85, 86, 98, 99, 102, 105, 108, 113, and 114 are allowable as being dependent on now allowable base claims.

In the alternative, regarding claims 98, 99, and 108, as previously discussed, the “communications means” of these claims is not the same as the video display 82 of Gagnon. The Examiner stated that it would have been obvious to modify the communications means into a wireless communications devices, e.g. a laptop PC. However, Applicants submit that this is an incorrect application of the “wireless” or “wired” relationship between the communications means and the radiation detector. What the Examiner is suggesting in terms of laptop PC’s having modems, is that the communication between a communications device and a network may be provided by wired or wireless means. However, that is not the scope of the claims 98, 99, and 108. The wired or wireless connection is between the radiation device and the communications means, and not between the communications means and a network. Reconsideration is requested.

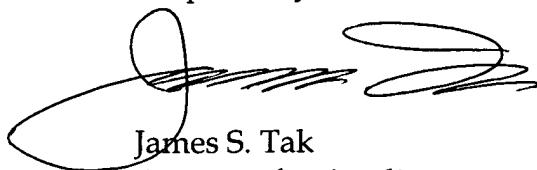
In the alternative, regarding claims 102 and 105, Applicants submit that the real time diagnosis of Tashiro is not the same as the real time automatic transmission of detected data over the communications network. There is no teaching of suggestion in Tashiro that the real time transmission is over the communications network or that it is automatically transmitted.

### Summary

Having amended the claims and/or overcome Examiner’s rejections as discussed above, Applicant respectfully submits that claims 80-83, 85-89, 91-111, 113-117, and 119-123 are in condition for allowance. Applicants respectfully request allowance of claims 80-83, 85-89, 91-111, 113-117, and 119-123.

In the event that the Examiner finds any remaining impediment to the prompt allowance of these claims that could be clarified with a telephone conference, she is respectfully requested to initiate the same with the undersigned at (925) 422-7274.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'James S. Tak', with a large, stylized loop at the beginning and end.

Dated: March 22, 2006 By:

James S. Tak  
Attorney for Applicant  
Registration No. 46,367

Lawrence Livermore National Lab  
7000 East Avenue, L-703  
Livermore, CA 94550  
TEL: (925) 422-7274  
FAX: (925) 423-2231